

ROOF STANDARDS

FEDERAL CEMENT TILE COMPANY
CHICAGO

Mike Jackson 1987

ROOF STANDARDS

Illustrating the
application of pre-cast
reinforced concrete slabs
to all types of
roof construction

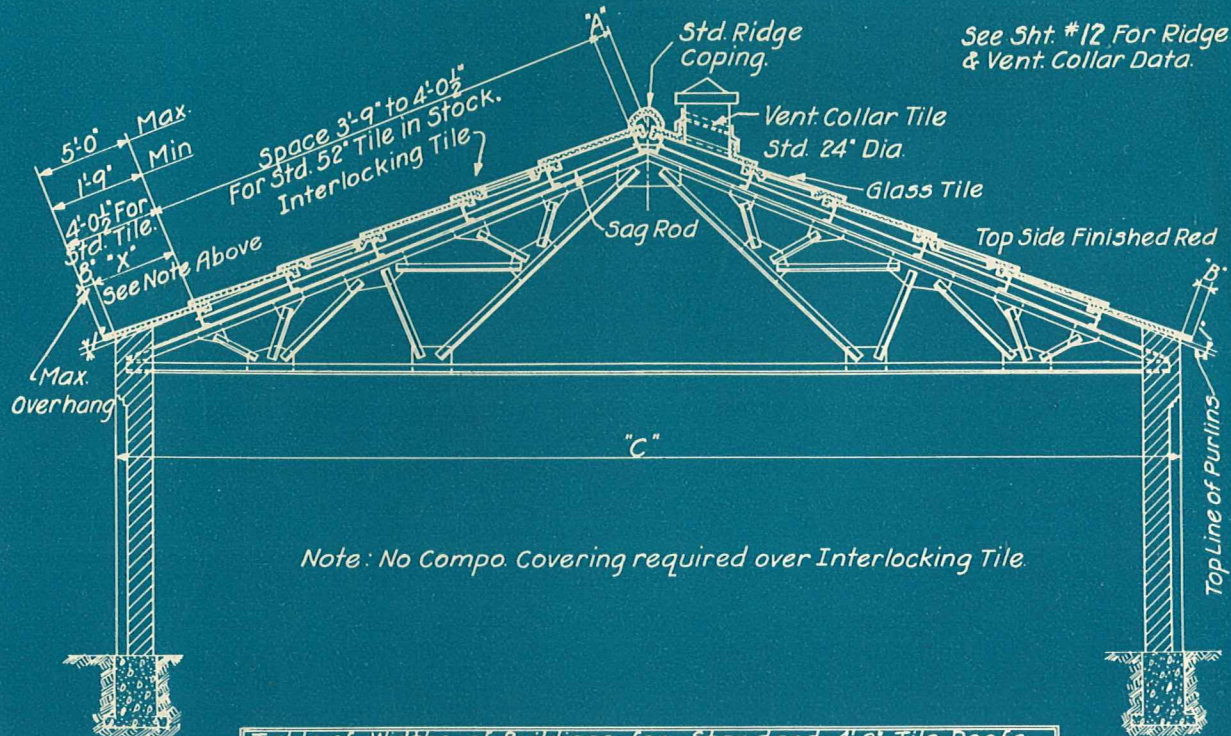


Made, laid and guaranteed by
FEDERAL CEMENT TILE COMPANY
608 S. Dearborn Street, Chicago, Illinois

Gable Roof Construction—Interlocking Tile

If Special Length Tile is necessary space to suit at Eave of Roof.
Do not use more than One or Two Special Lengths of Tile in any One Slope.

Note:—Dimension "X" Eave Course may Vary from 3'-5" to 3'-9" to use
Std. 52" Tile by Varying Overhang 8" to 4".

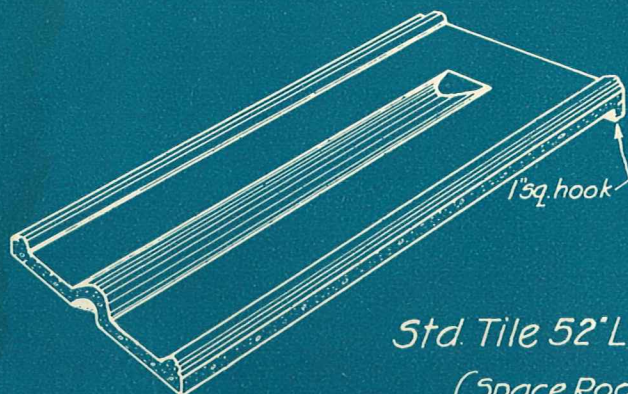


$\frac{1}{3}$ Pitch			$\frac{1}{4}$ Pitch			$\frac{1}{5}$ Pitch		
Width of Bldg. C	Over Hang B	Courses of 4'-0" Tile on One Side	Width of Bldg. C	Over Hang B	Courses of 4'-0" Tile on One Side	Width of Bldg. C	Over Hang B	Courses of 4'-0" Tile on One Side
40'-4"	5 7/8"	6	43'-0"	6 1/2"	6	44'-0"	6 3/4"	6
47'-0"	"	7	50'-3"	6"	7	52'-0"	6"	7
53'-8"	"	8	57'-6"	5 1/2"	8	59'-6"	5 1/2"	8
60'-4"	"	9	64'-6"	6 1/2"	9	66'-10"	6"	9
67'-0"	"	10	71'-8"	6 1/2"	10	74'-4"	5 3/4"	10
73'-8"	"	11	79'-0"	5 1/2"	11	81'-8"	6 3/8"	11
80'-4"	"	12	86'-0"	6 1/2"	12	89'-2"	5 1/2"	12
87'-0"	"	13	93'-4"	5 1/2"	13	96'-6"	6 1/2"	13
93'-8"	"	14	100'-6"	5 1/2"	14	104'-0"	6"	14
100'-4"	"	15						

Note: Proper Slope of Roof for Interlocking Tile is $\frac{1}{3}$ Pitch ($4\frac{13}{16}$ " Rise in 12) or Steeper.
If Slope is less than $\frac{1}{6}$ Pitch (4" Rise in 12) Layout for Federal Flat or Channel Slab Roof.

Interlocking and Glass Insert Tile Data

Top side of Tile hard waterproof Red Color Finish; all Joints and Overlaps cemented with Special Elastic Cement- Absolutely Tight (No composition covering required) Tile reinforced with heavy Wire Mesh. Safe carrying Load 60 lbs per sq. ft. (Safety Factor of 4)

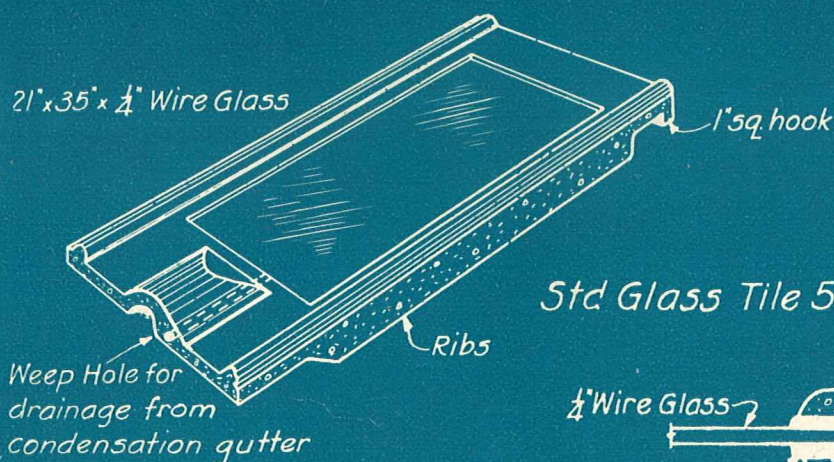


Section Thru Joint

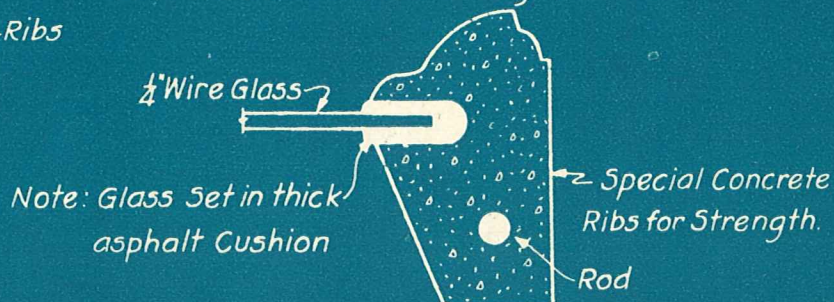
Std. Tile 52" Long-24" Wide-1 1/8" Thick
(Space Roof Purlins 3'-9" to 4'-0 1/2")

Std. 52" Length & Special 64" Length carried in stock. Special Lengths made from 24" to 64" (Note: Max. Purlin spacing 5'-0") Wght. 18 lbs. per sq. ft.

Note: Glass Tile interchangeable with Std. 52" Tile.



Std Glass Tile 52" Long-24" Wide



Monitor Roof Construction—Interlocking Tile



If Special Length Tile is necessary space to suit at Eave of Roof. Do not use more than One or Two Special Lengths of Tile in any One Slope.

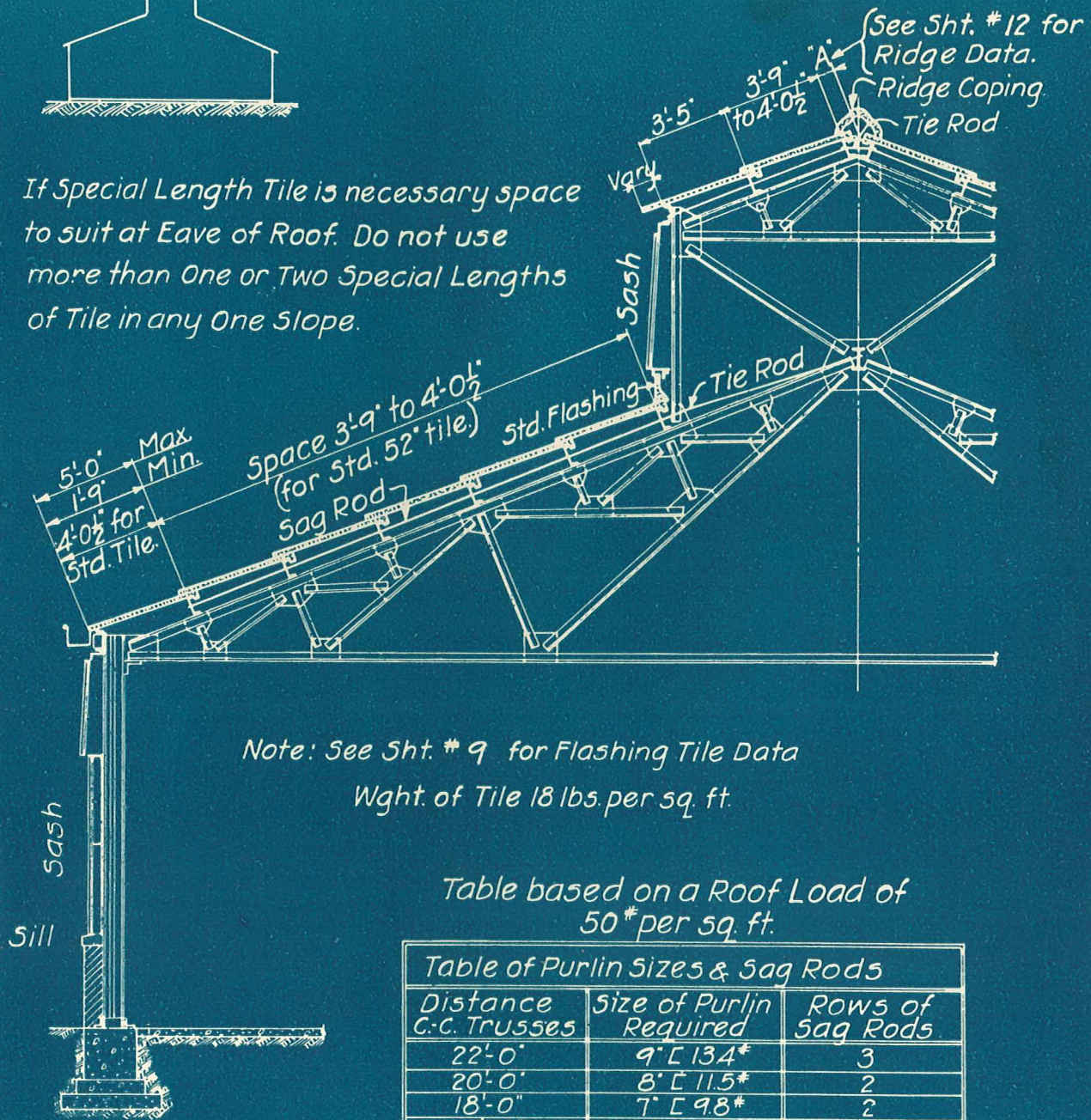
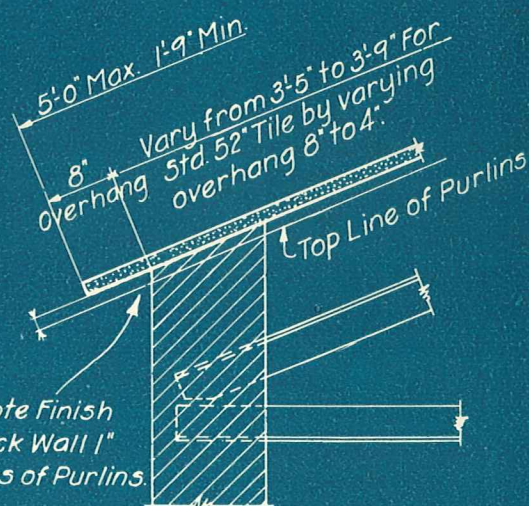
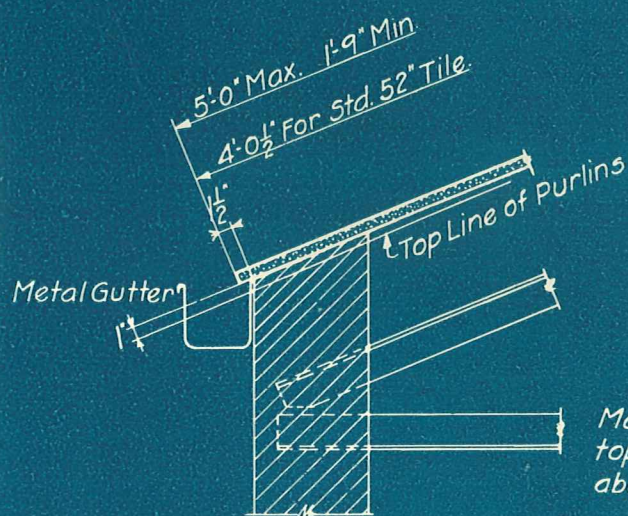
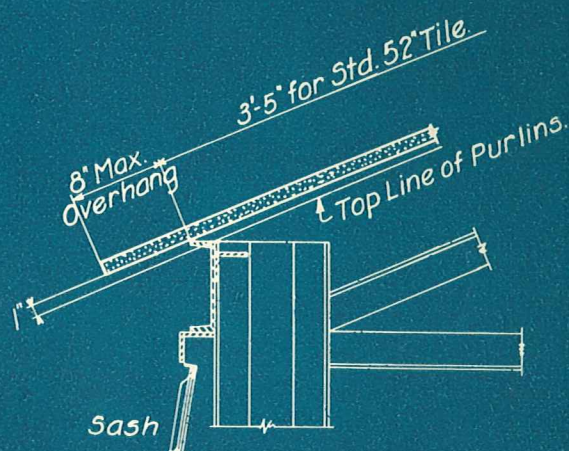
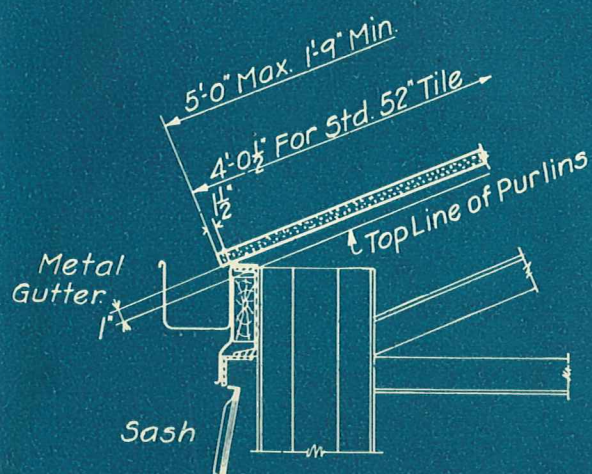


Table based on a Roof Load of 50* per sq. ft.

Distance C.C. Trusses	Size of Purlin Required	Rows of Sag Rods
22'-0"	9" C 13.4*	3
20'-0"	8" C 11.5*	2
18'-0"	7" C 9.8*	2
16'-0"	7" C 9.8*	2
14'-0"	6" C 8.2*	1
12'-0"	6" C 8.2*	1
10'-0"	5" C 6.7*	1

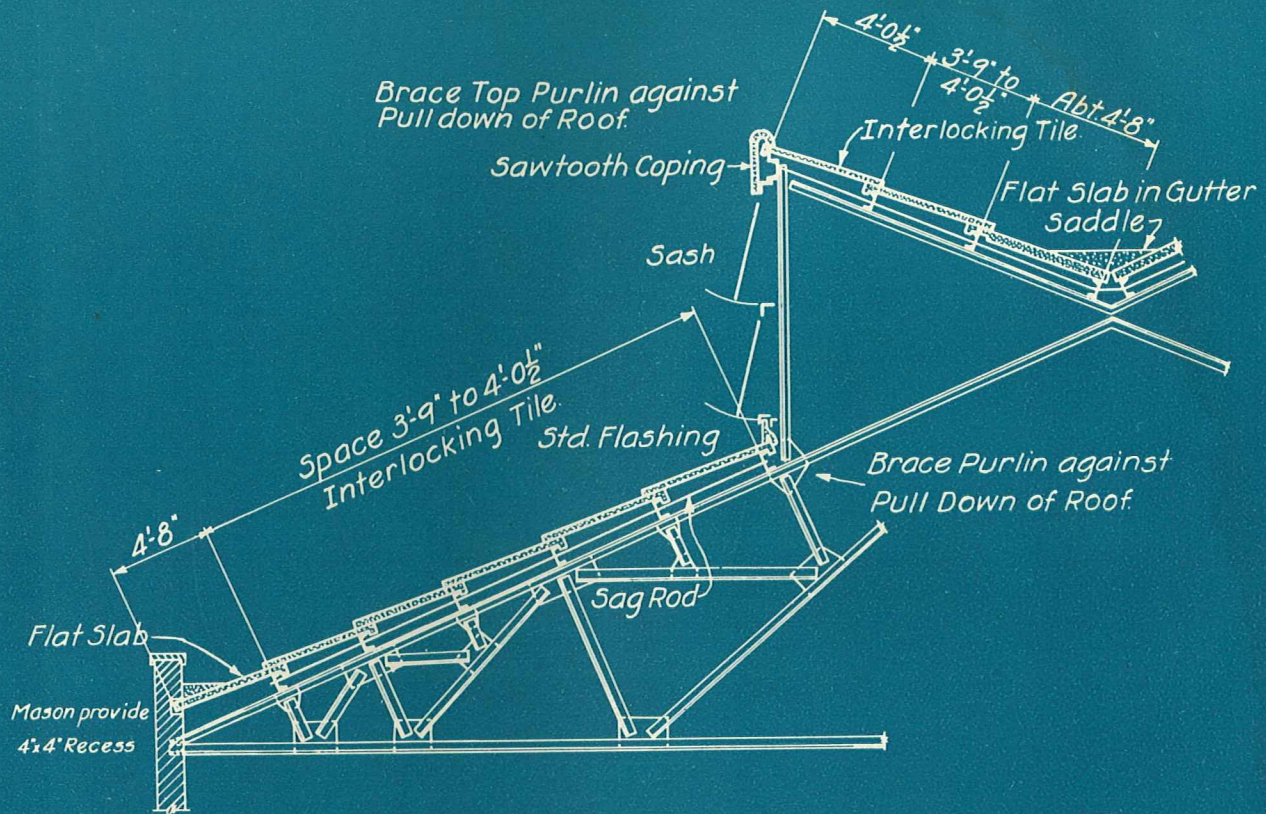
Important Space Roof Purlins 3'-9" to 4'-0 1/2" to use Std. 52" Tile carried in stock. Max. Purlin spacing 5'-0" for 64" Max. Length Tile.

Alternate Eave Construction—Interlocking Tile

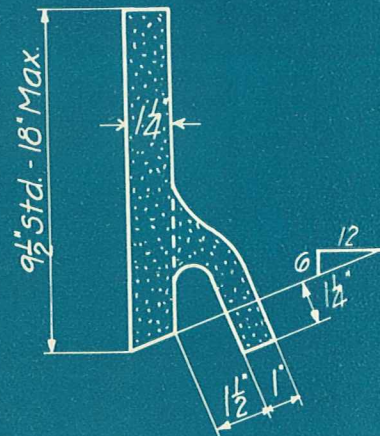
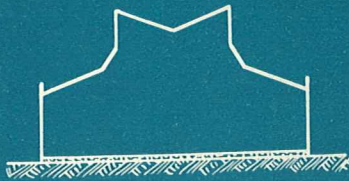


Mason Note Finish
top of Brick Wall 1"
above Tops of Purlins.

Inverted Monitor Roof Construction, Interlocking Tile, Flat Slab in Gutter

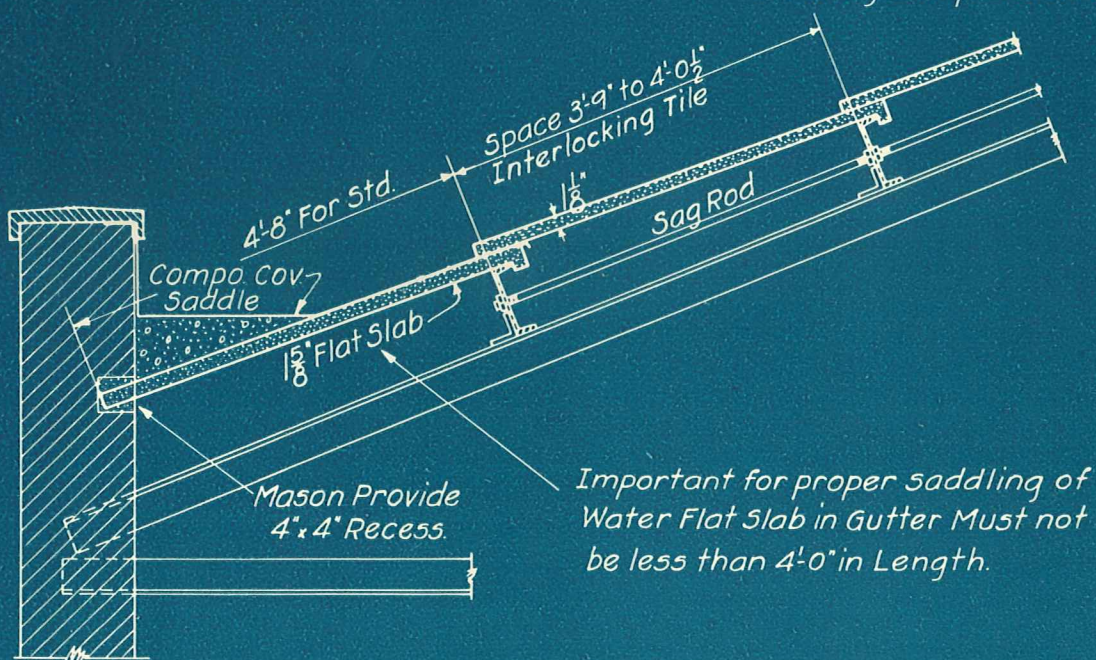
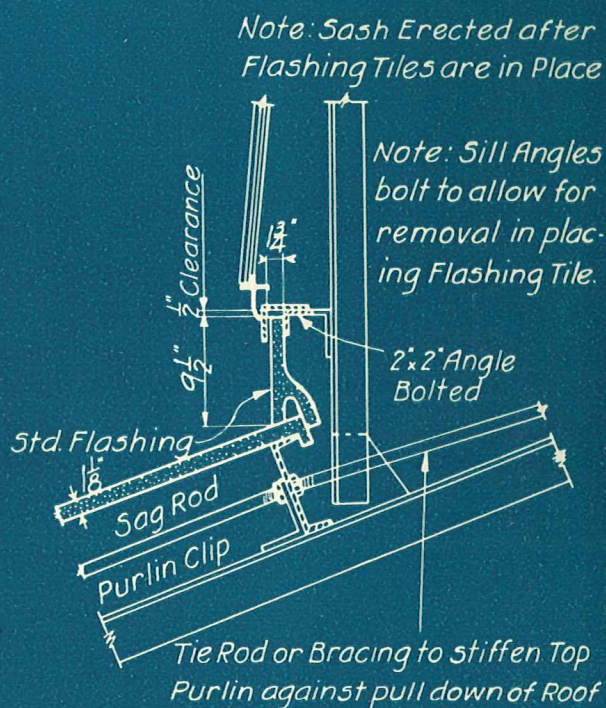
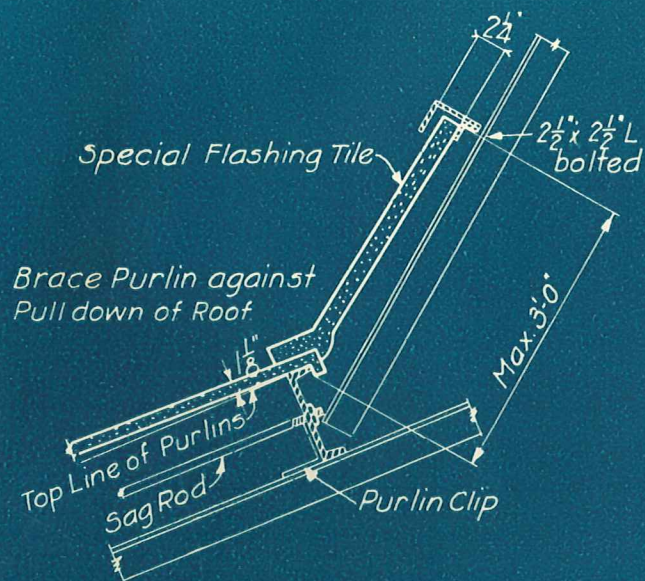


Note: No Compo. Covering required over Interlocking Tile.

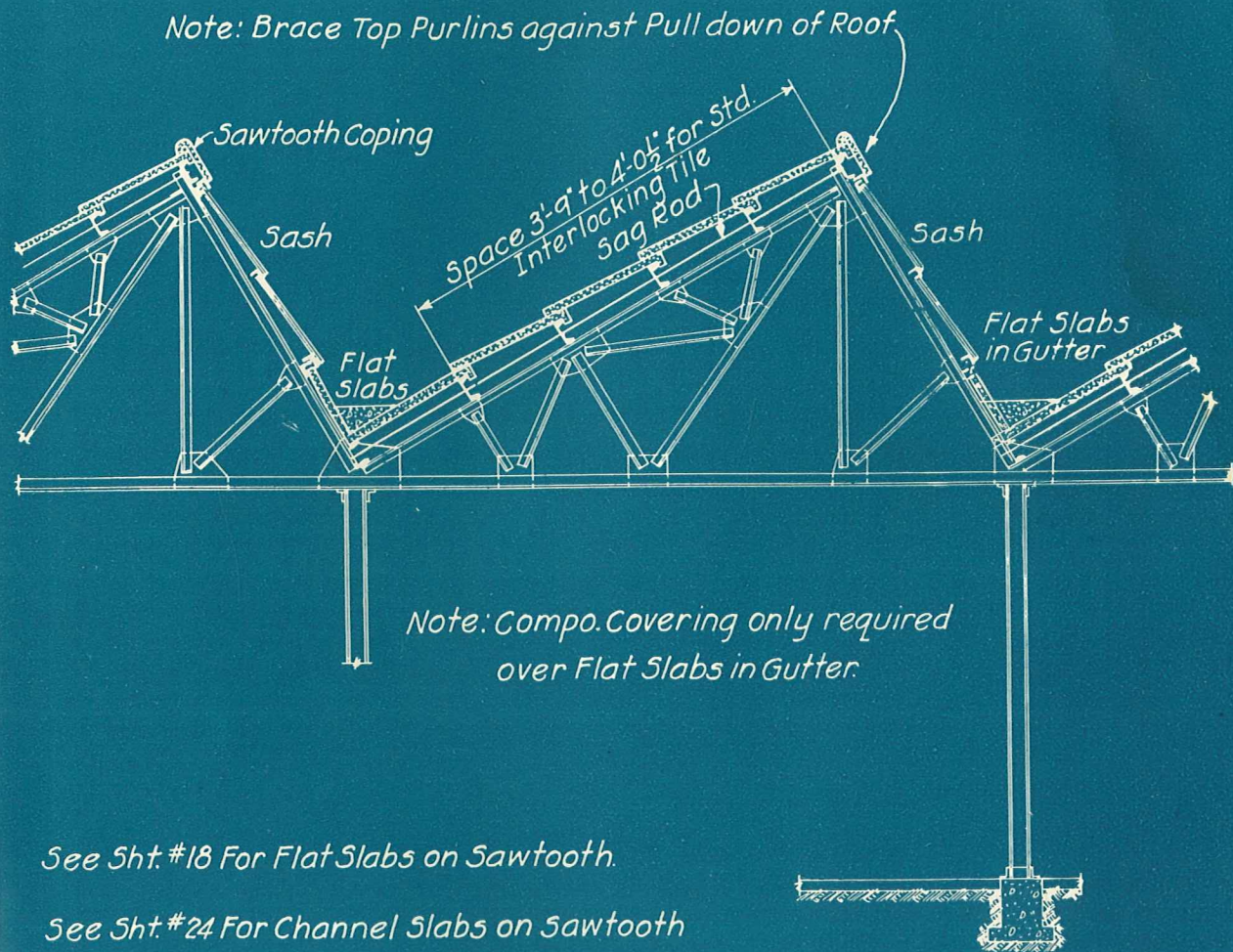


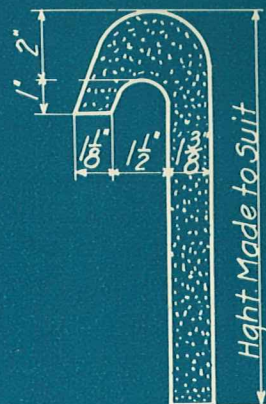
Std. Flashing 9 1/2" high
carried in stock. Specials
made up to 18" high.

Flashing and Gutter Construction Details

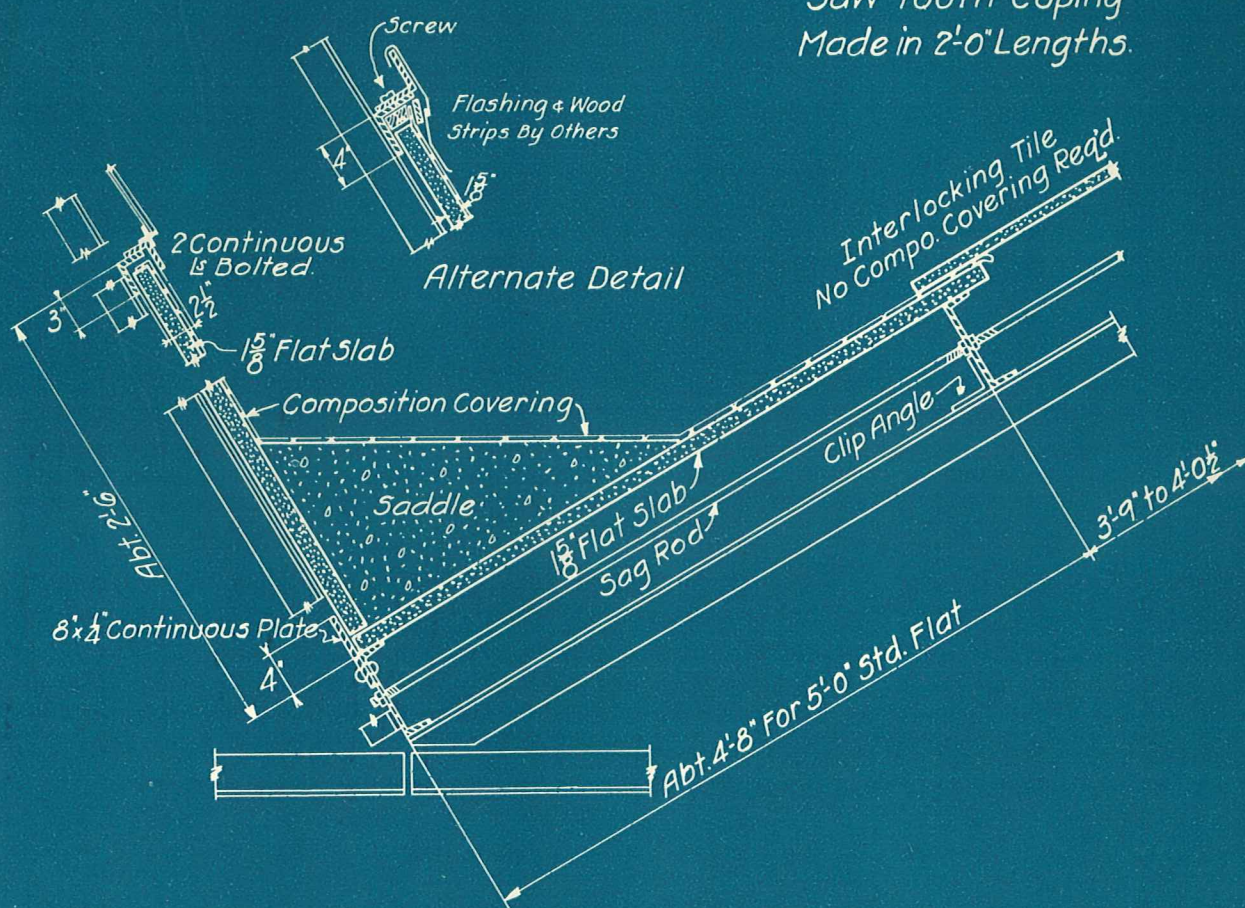


Sawtooth Roof Construction, Interlocking Tile, Flat Slab in Gutter





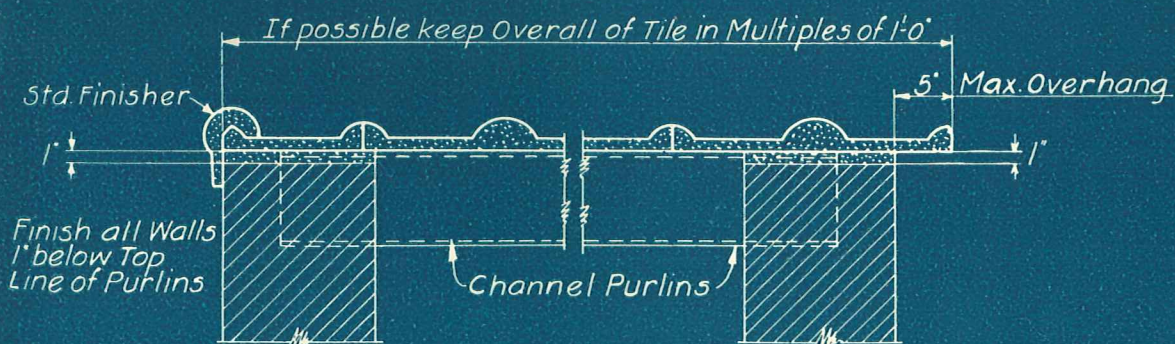
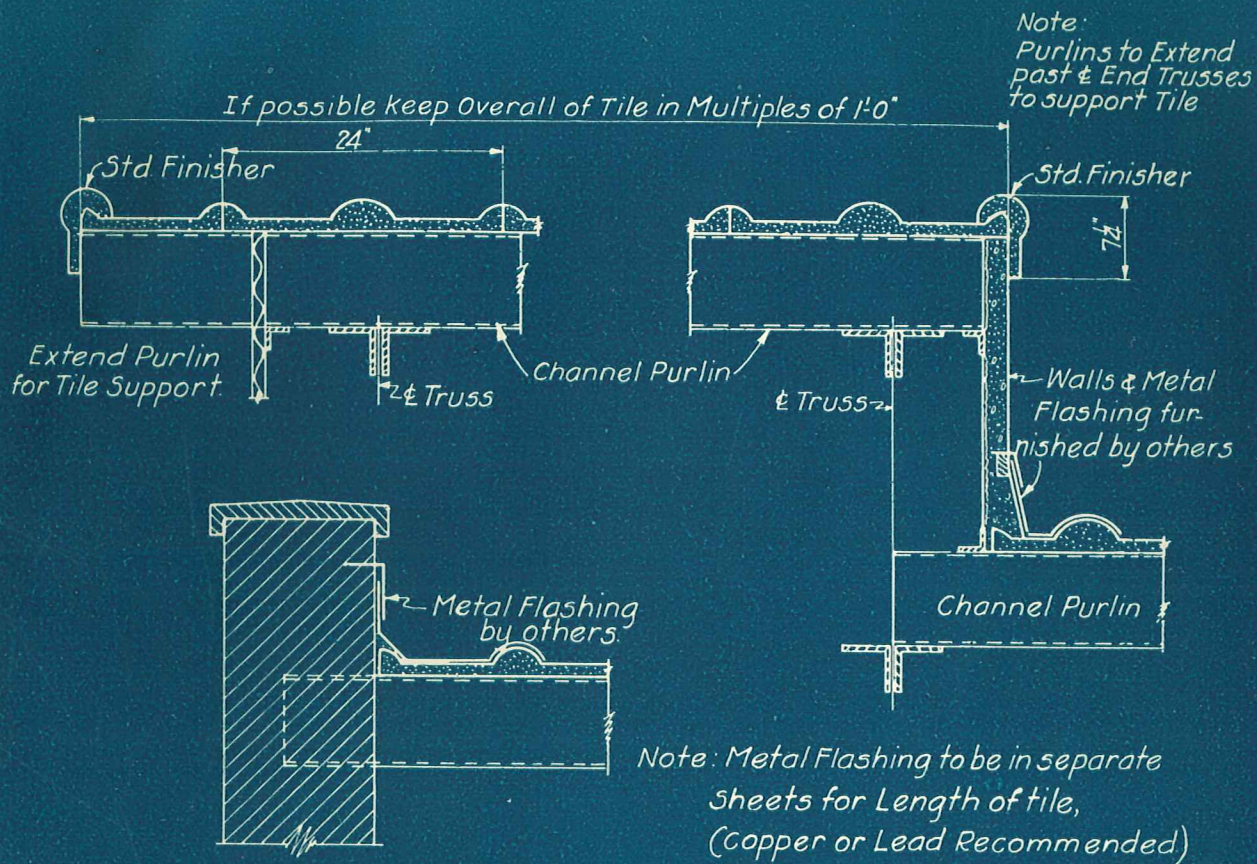
Saw Tooth Coping
Made in 2'-0" Lengths.





Std. Ridge
(Made in 2'-0" Lengths.)

Gable Construction—Interlocking Tile



Monitor Roof Construction, Pre-Cast Flat Slab



Important:- Space Roof Purlins 5'-0" Ctrs.
For Std. 5'-0" Flat Slab in Stock.

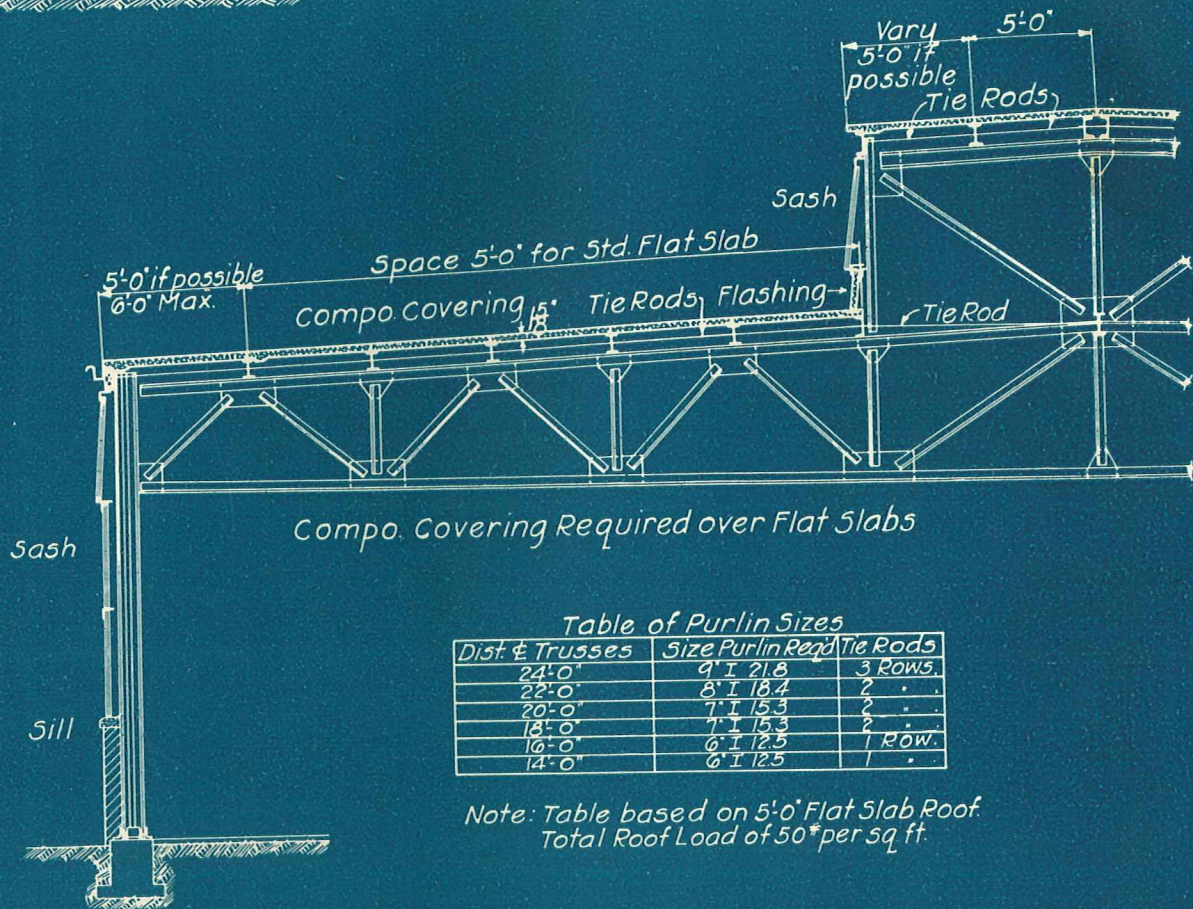
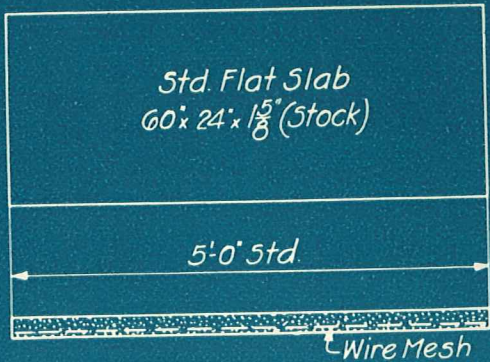


Table of Purlin Sizes

Dist. & Trusses	Size Purlin Req'd	Tie Rods
24'-0"	9" I 21.8	3 Rows
22'-0"	8" I 18.4	2 " "
20'-0"	7" I 15.3	2 " "
18'-0"	7" I 15.3	2 " "
16'-0"	6" I 12.5	1 Row
14'-0"	6" I 12.5	1 " "

Note: Table based on 5'-0" Flat Slab Roof.
Total Roof Load of 50* per sq. ft.



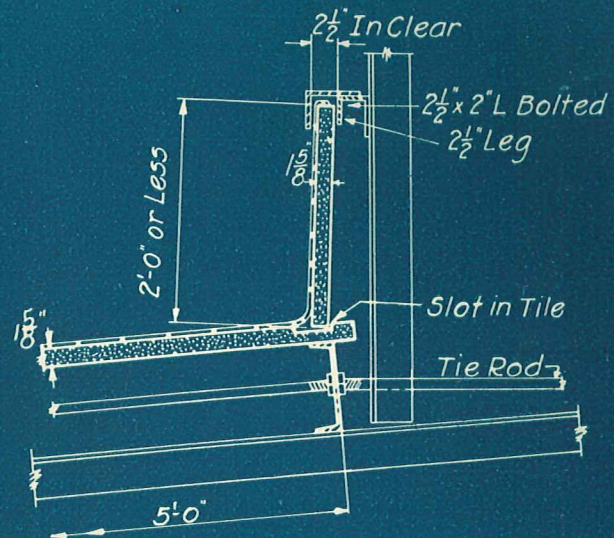
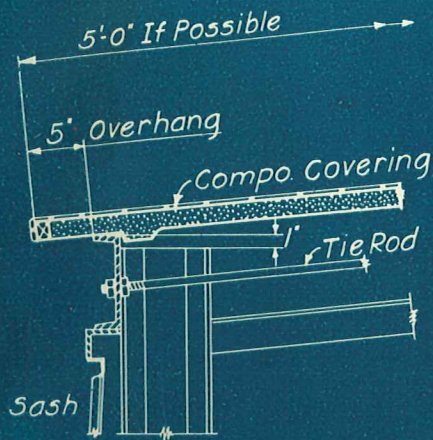
Flat Slab Data

5 Ft. Flat Slab 1 5/8" Thick Weighs 19* per sq. ft.
6 Ft. " " 1 5/8" " " 22* " " "

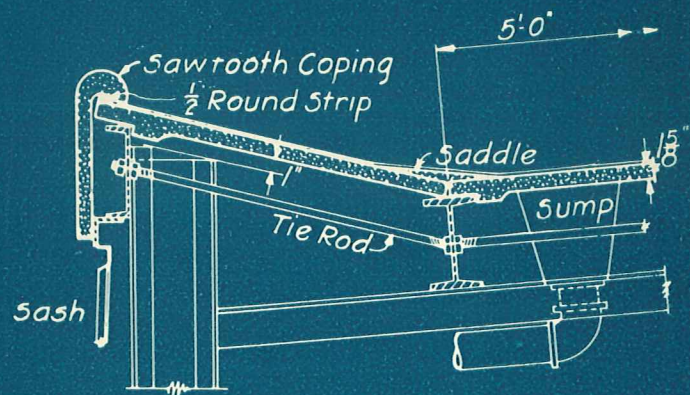
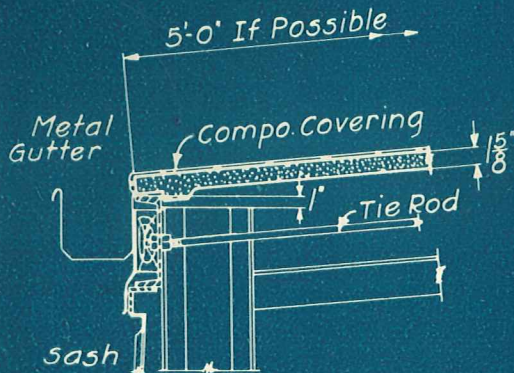
Slabs Reinforced with Wire Mesh.
Safe Live Load, 60* per sq. ft.

5'-4" & Special Lengths to 6'-0" made to order

Flashing and Eave Construction Details



Eave and Flashing Details

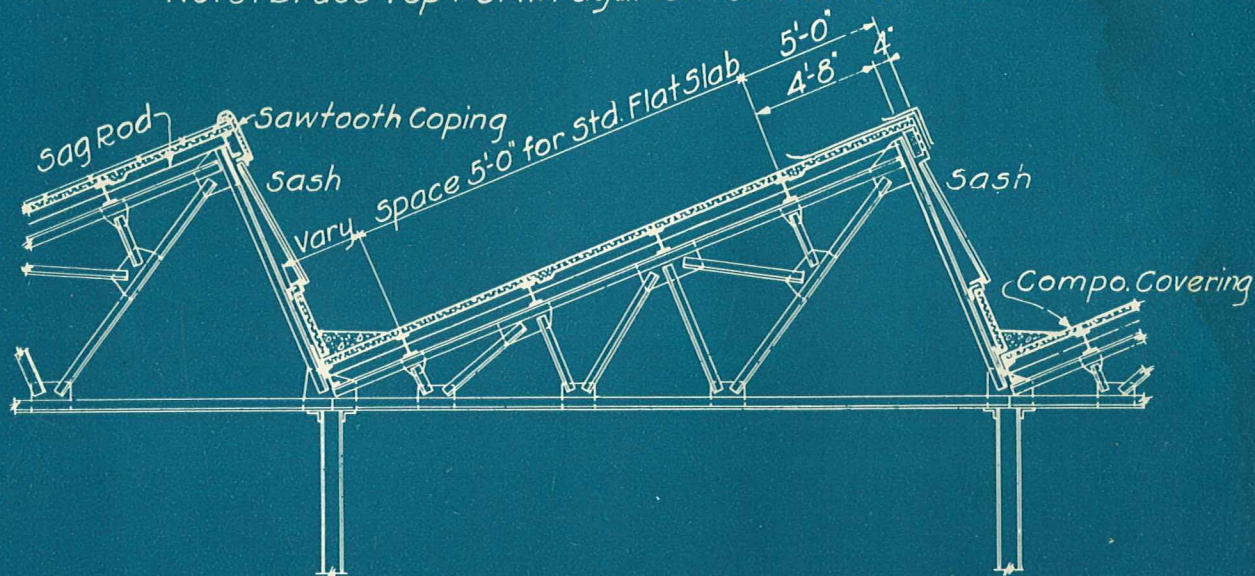


Alternate Eave Details

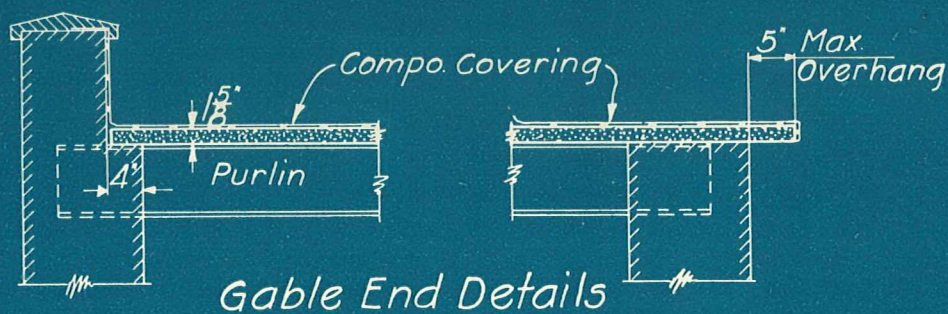
Sawtooth Roof Construction—Pre-Cast Flat Slab

*Important - Space Roof Purlins 5'-0" Ctr
For Std. 5'-0" Flat Slab in Stock.*

Note: Brace Top Purlin against Pull Down of Roof



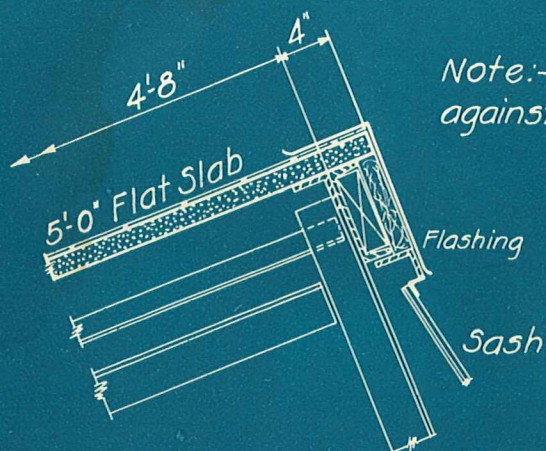
*Compo. Covering Required over Flat Slabs
See Sheet # 10 For Interlocking Tile on Sawtooth Roofs
See Sheet # 24 For Channel Slabs on Sawtooth Roofs*



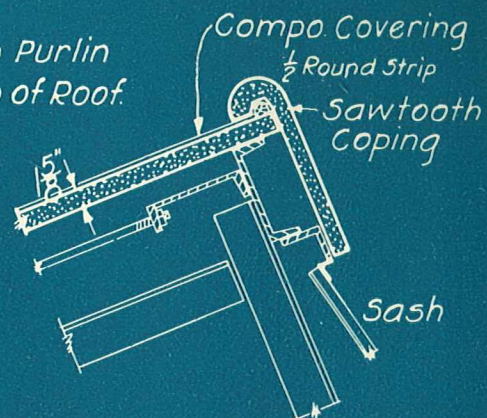
Gable End Details



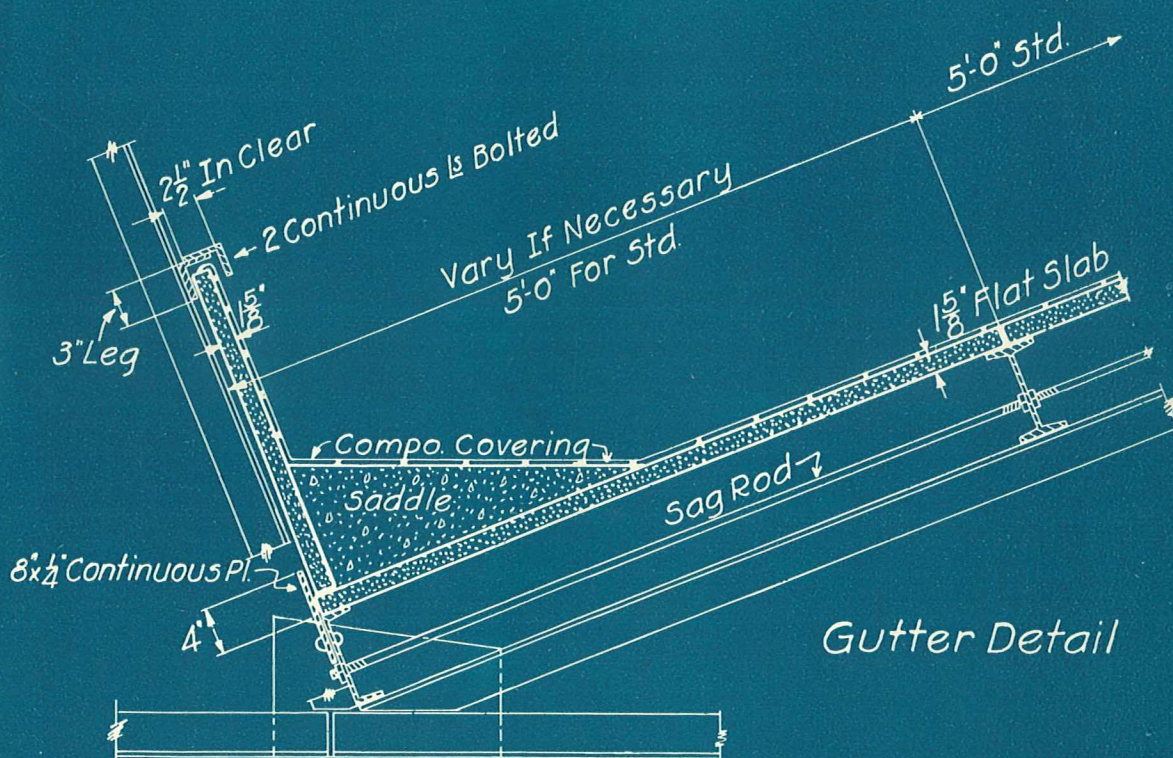
Sawtooth Ridge Coping and Gutter Construction



Note:- Brace Top Purlin
against Pull Down of Roof.

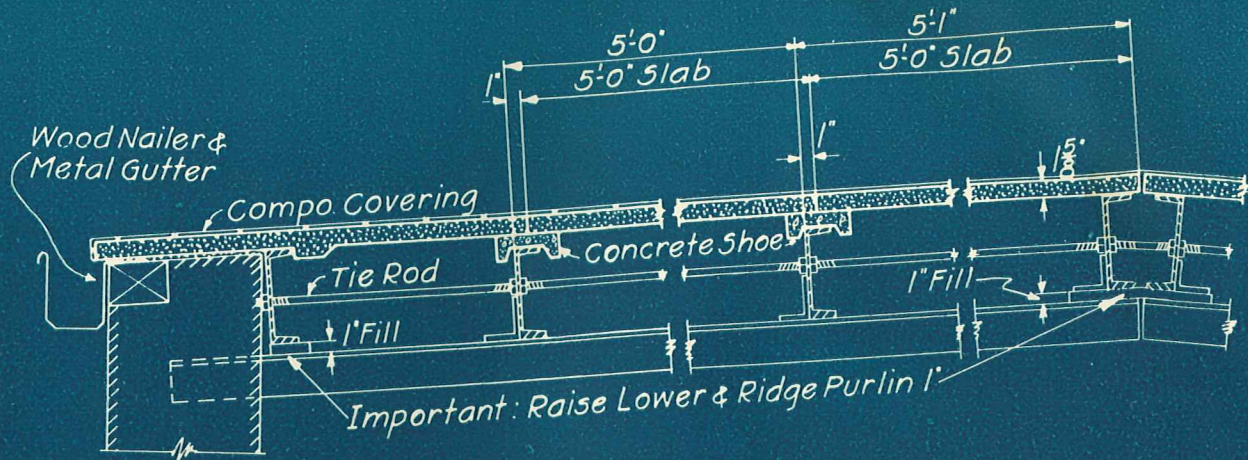


Alternate Details at Peak

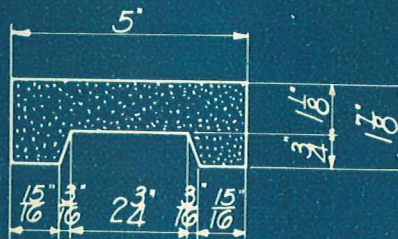


Gutter Detail

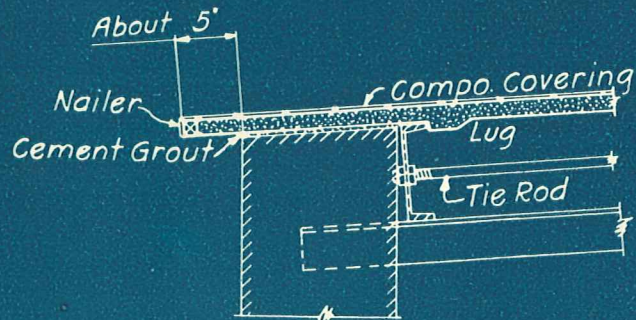
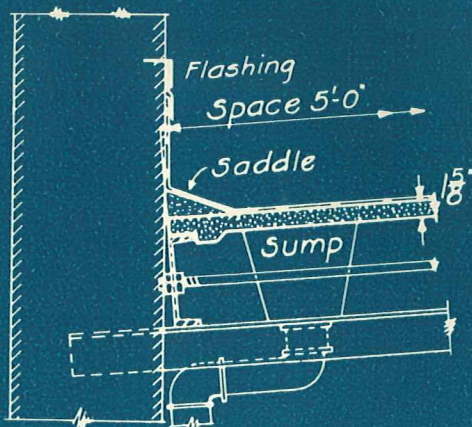
Pre-Cast Flat Slab with Concrete Shoe for Channel Purlins



Concrete Shoes Used to Secure Sufficient Bearing For Slabs on Channel Purlins.

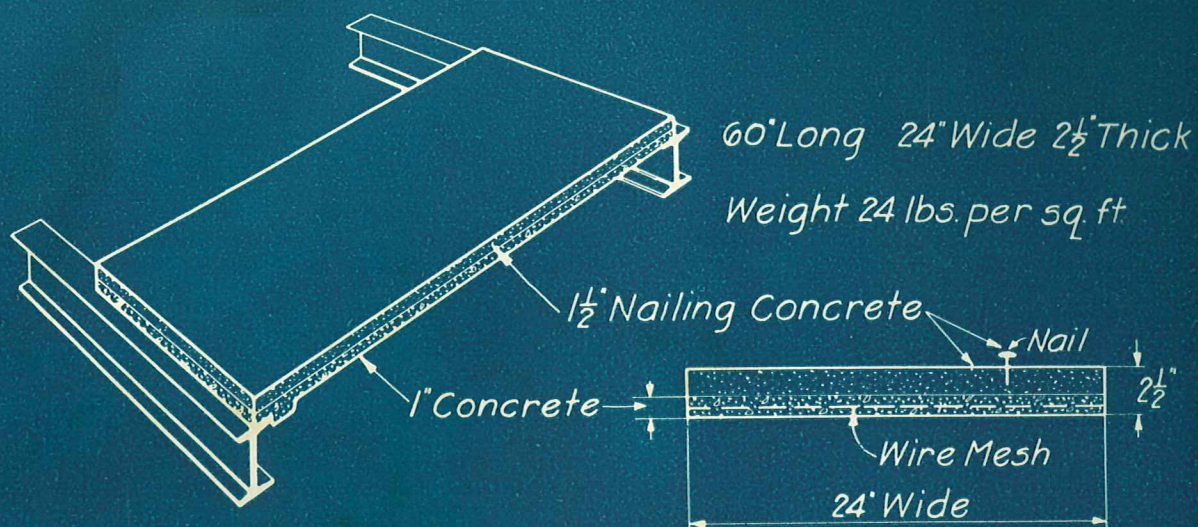


*Cross-Section - Standard Shoe
Length 2'-0" - Wght. 7 1/2" Per Lin. Ft.*



Alternate Eave Details

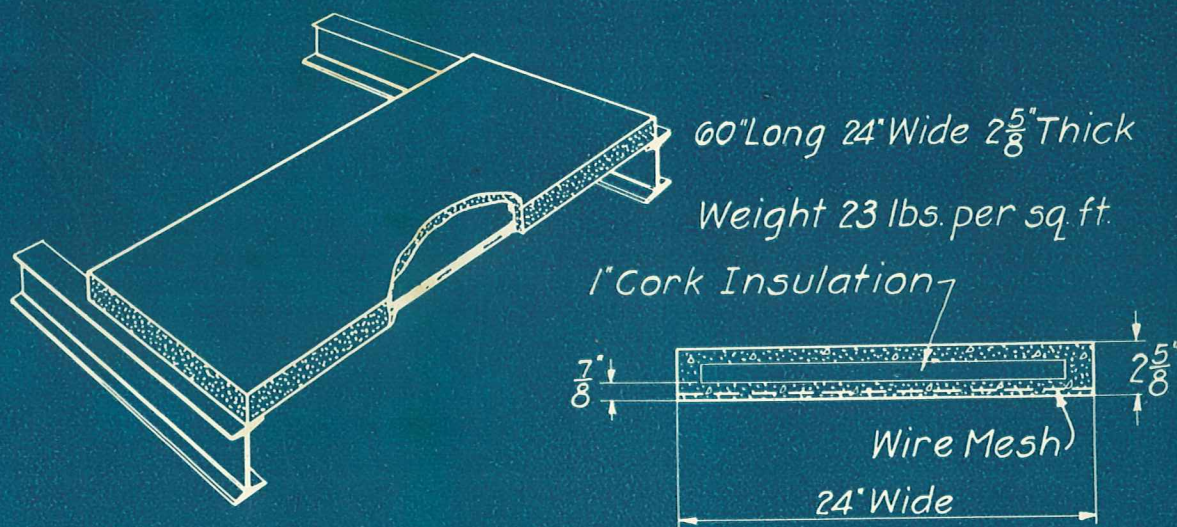
Pre-Cast Nailing Concrete Slab and Cork Insulated Slab



This Slab has Superior Insulating Values

Nailing Concrete Slab

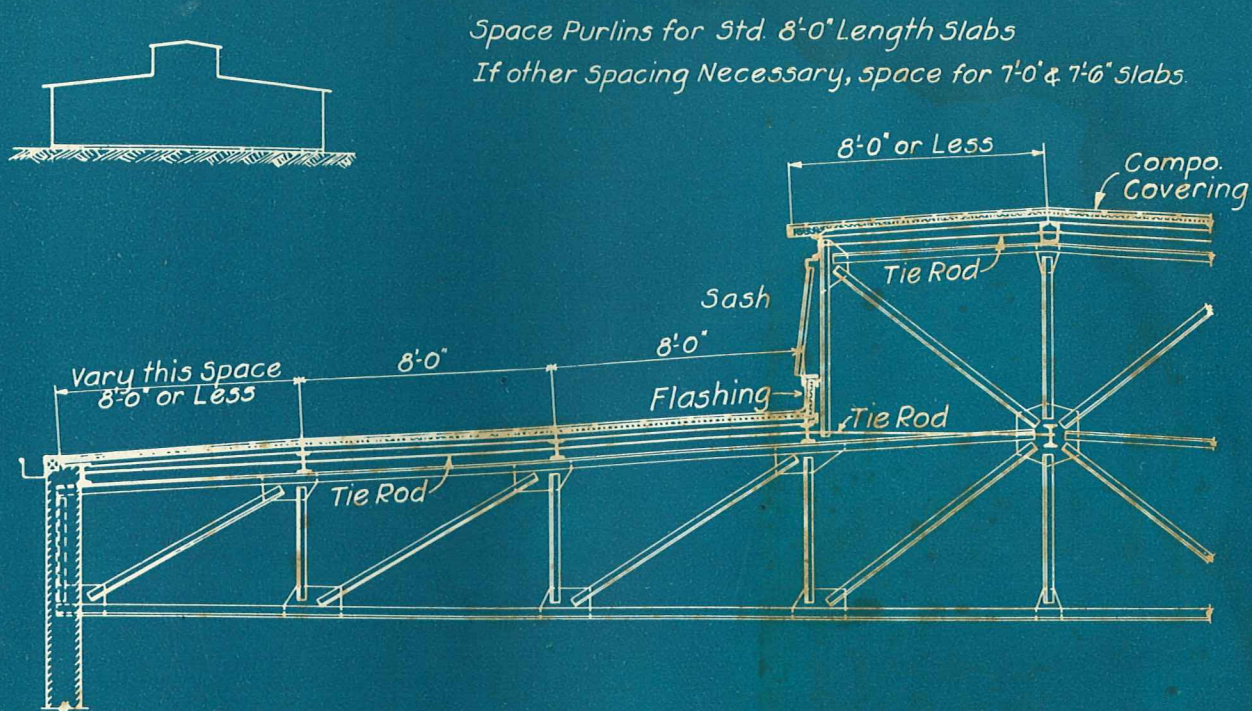
A Fireproof Nailing Base for Slate, Clay, Ornamental Tile, etc.



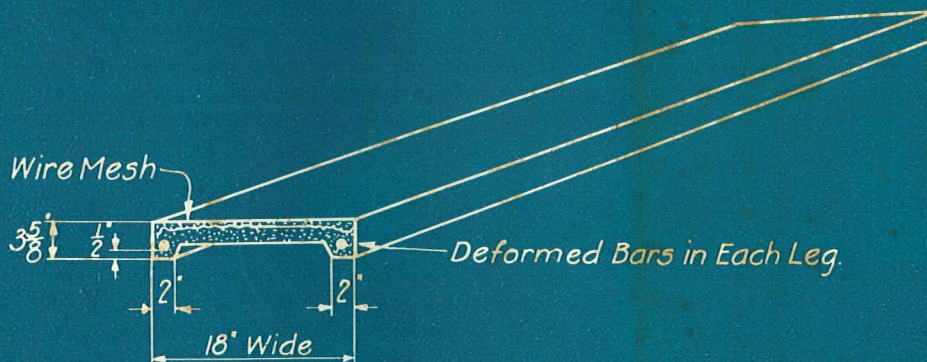
Note:-Nailing & Cork Slab Carry 60 lbs. per sq. ft. Safety Factor of 4

Cork Insulation Slab

Monitor Roof Construction—Pre-Cast Channel Slabs

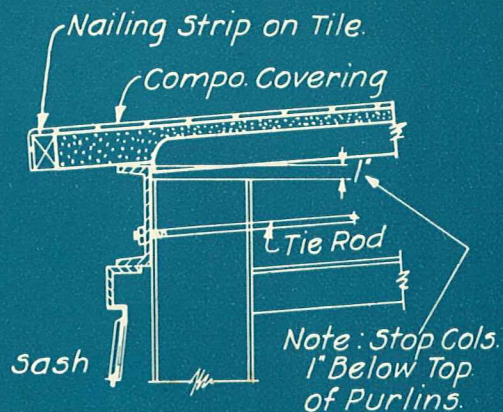
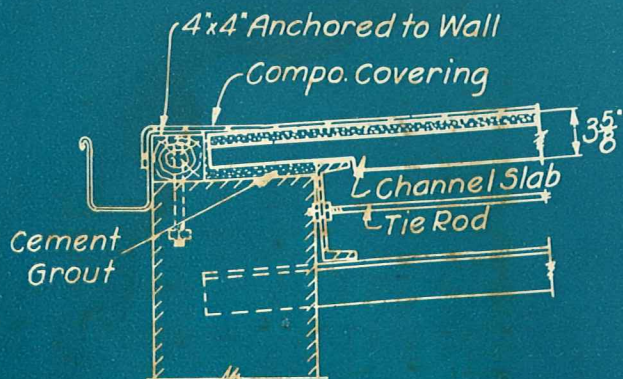


Channel Slabs Weigh 22 Lbs. Per Sq. Ft. and Will Carry
Safe Load of 60 Lbs. Per Sq. Ft. (Factor Safety of 4)
Compo. Covering required over Channel Slabs.

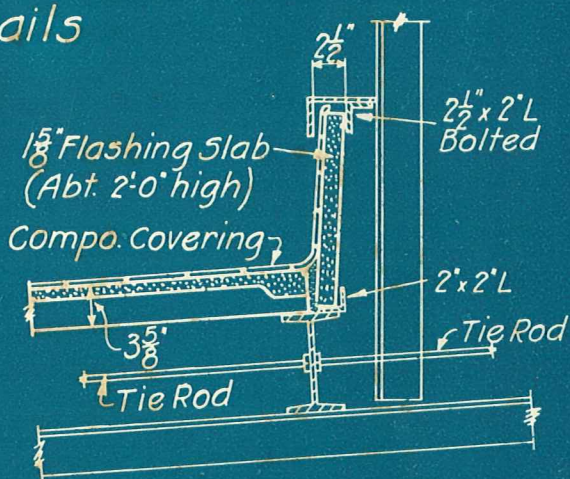
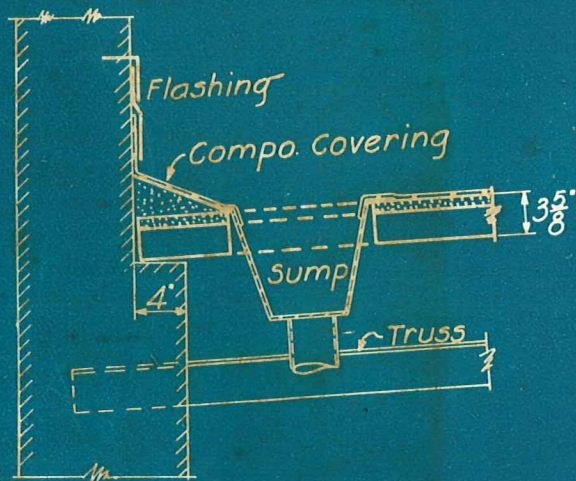


Note: Channel Slabs also made for Floor and Roof
Construction to meet the fireproof ordinance of
the City of Chicago & other Cities for Fireproof
Construction.

Flashing and Eave Construction Details

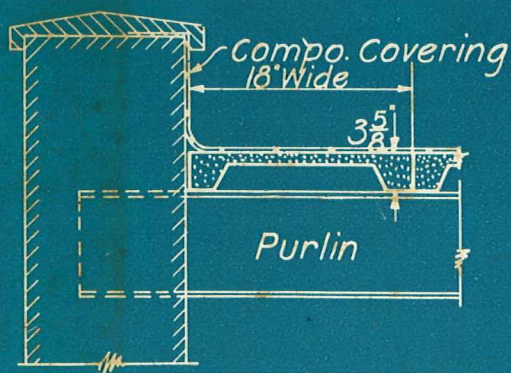


Eave Details



Flashing Detail

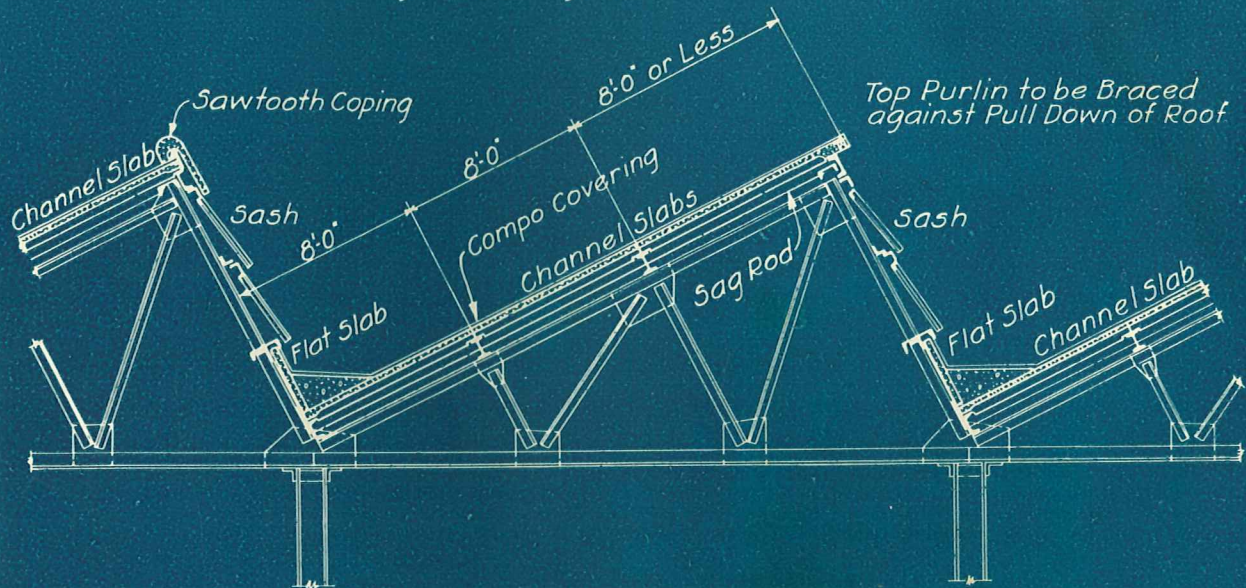
Parapet Wall



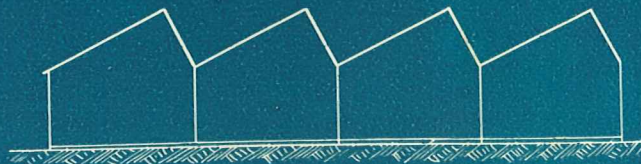
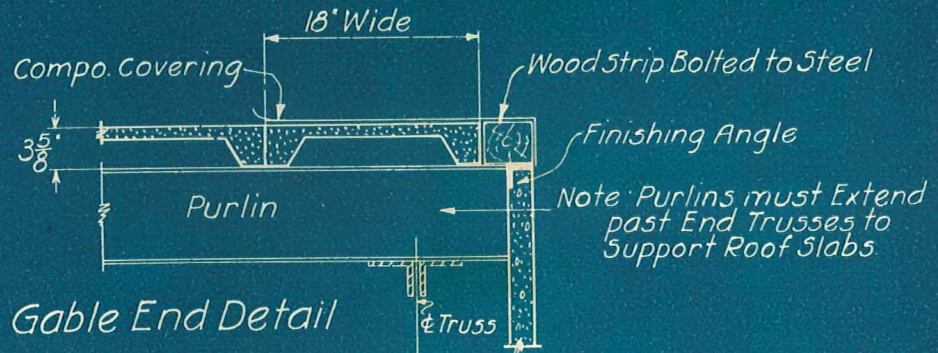
Gable End Detail

Sawtooth Roof Construction—Pre-Cast Channel Slabs

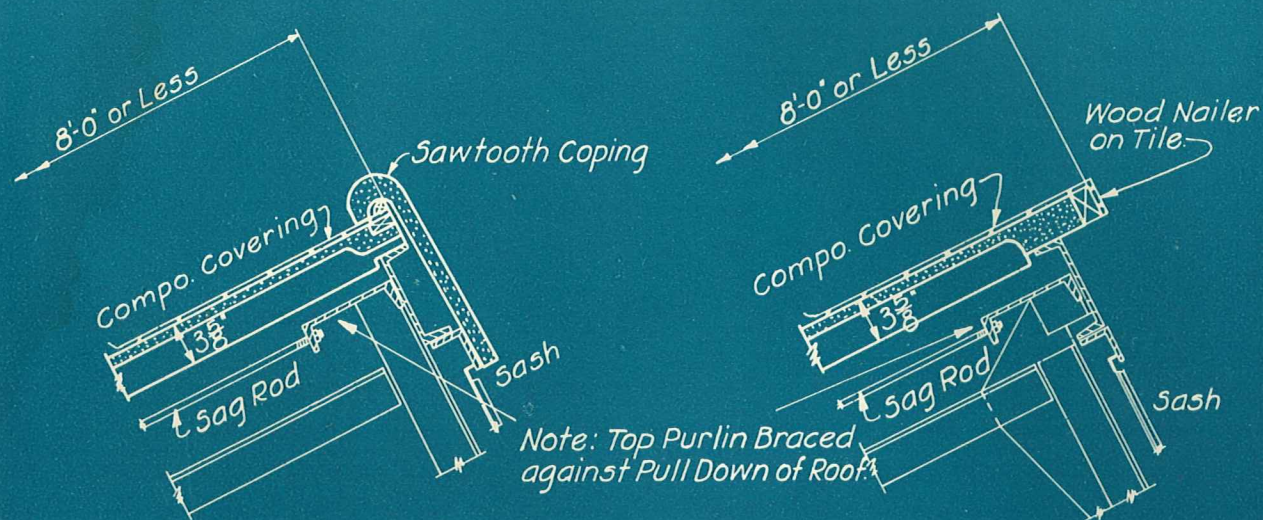
*Space Purlins For Standard 8'-0" Length Slabs
If Other Spacing Necessary, Space For 7'-0" & 7'-6" Slabs*



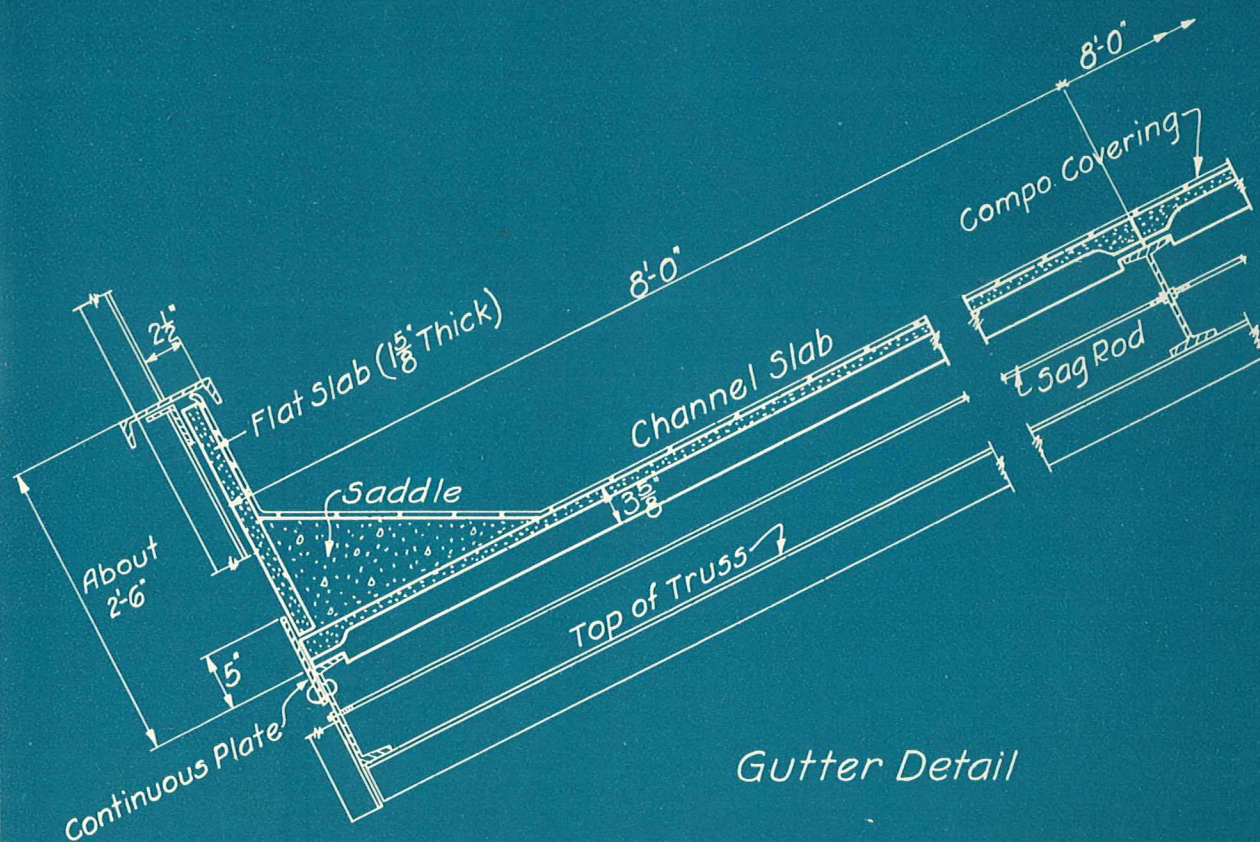
*Channel Slabs Weigh 22 Lbs. Per Sq. Ft. and Will Carry
Safe Load of 60 Lbs. Per Sq. Ft. (Factor Safety of 4)*



Sawtooth Ridge Coping and Gutter Construction

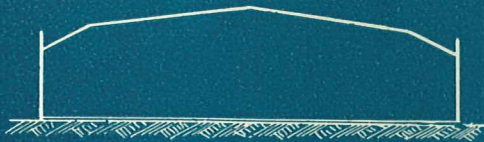


Alternate Details of Peak



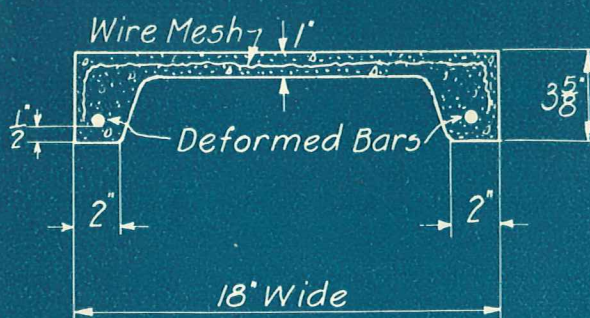
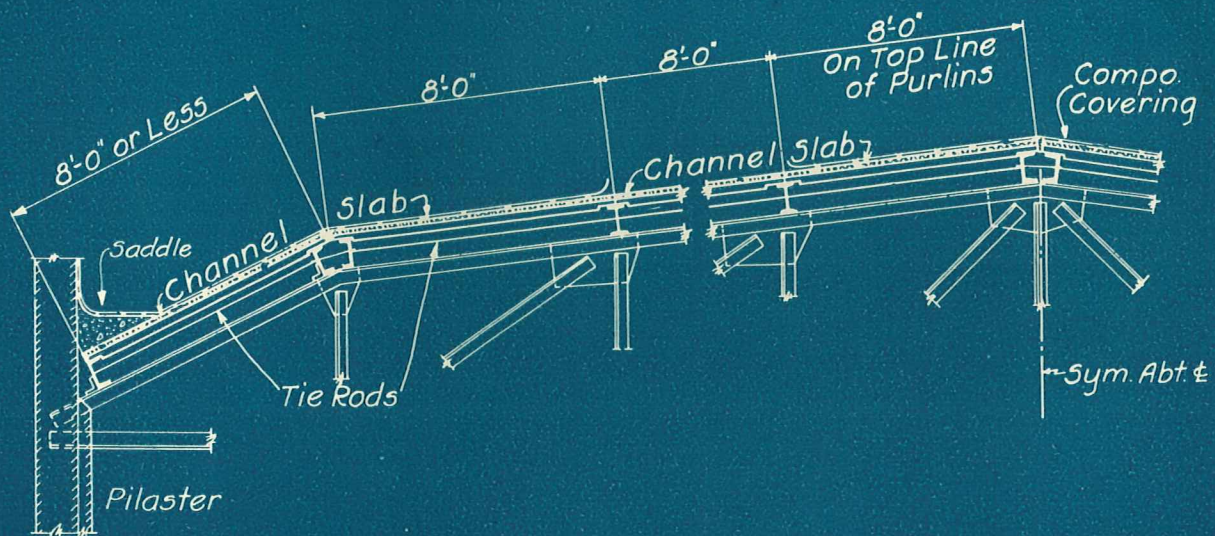
Gutter Detail

Theatre, Garage, etc., Roof Construction—Pre-Cast Channel Slabs

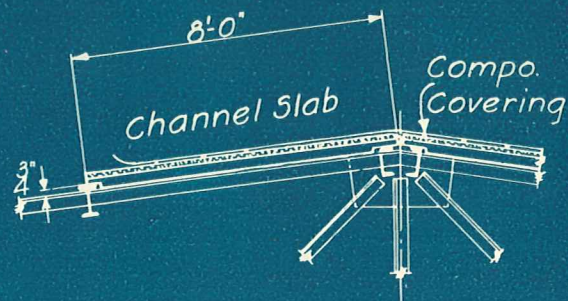


Space Purlins for Std 8'-0" Length Slabs
If Other Spacing Necessary Space for
7'-0" and 7'-6" Slabs.

Important Note: 8'-0" Spacing is on slope of Roof

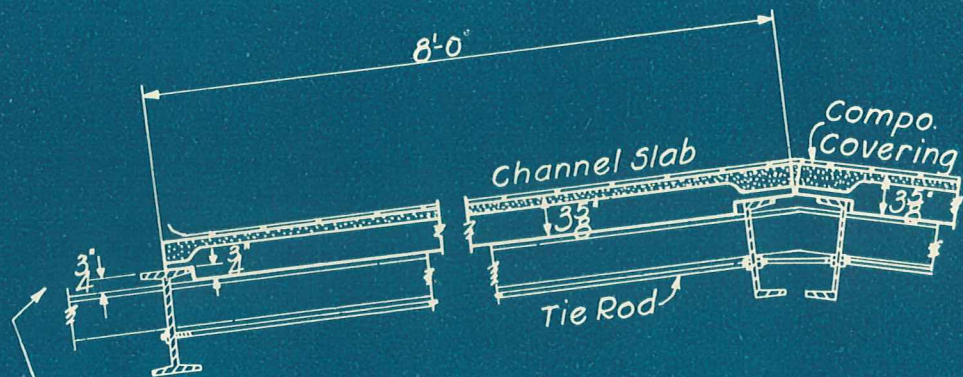
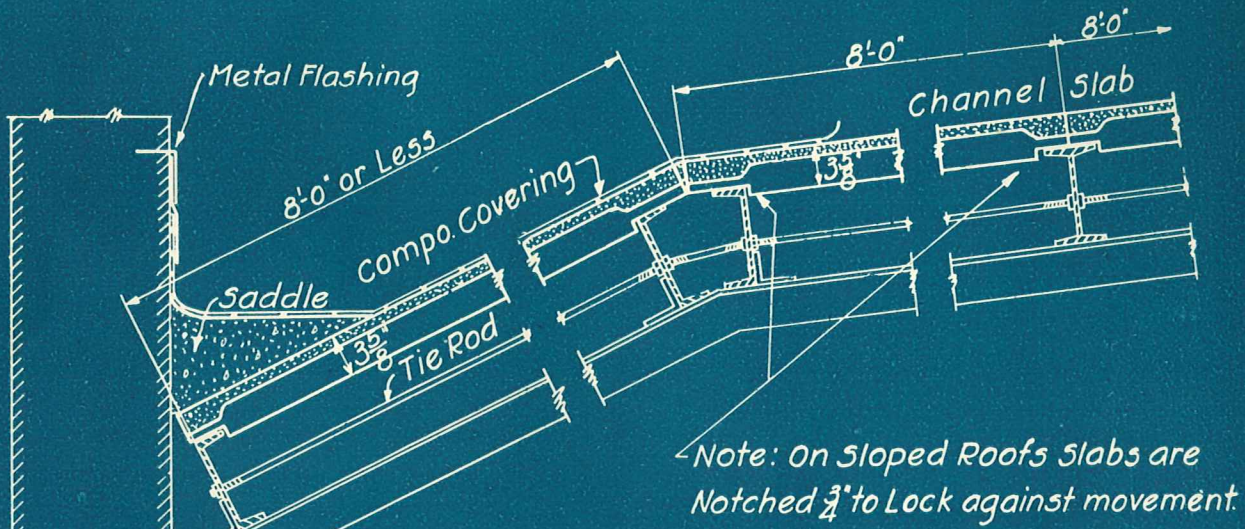


Cross Section Channel Slab
Weight 22 Lbs. Per Sq. Ft.



Purlins Framing Into Trusses
See Detail Opposite Page.

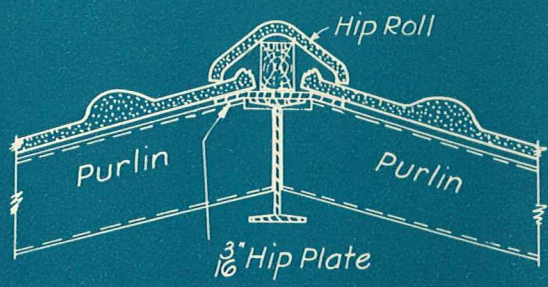
Eave and Ridge Construction



Note — Channel Slabs are Notched $\frac{3}{4}$ " at End to Lock against Movement Therefore if Purlins Frame into Trusses Have Top of Trusses $\frac{3}{4}$ " Below Tops of Purlins to clear Slabs.

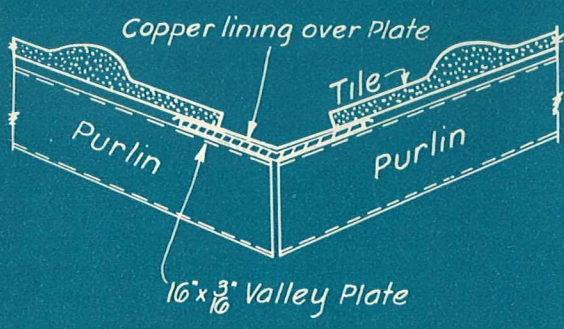
Hip, Valley and Stack Construction

Note:-
Provide Holes in Hip Plate
to bolt Wood Strip.



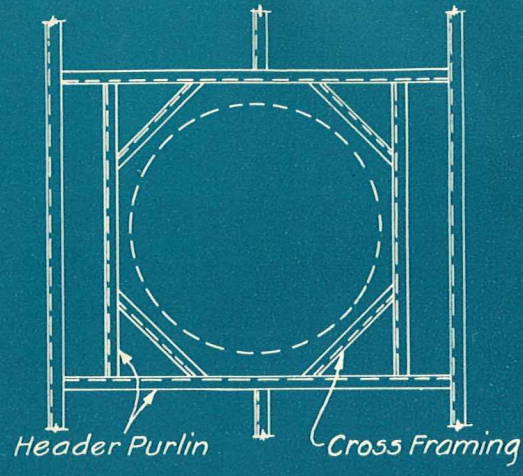
Typical Section Thru Hip

Note:-
Connections for Plates Countersunk
on Top Side for even bearing of Tile.



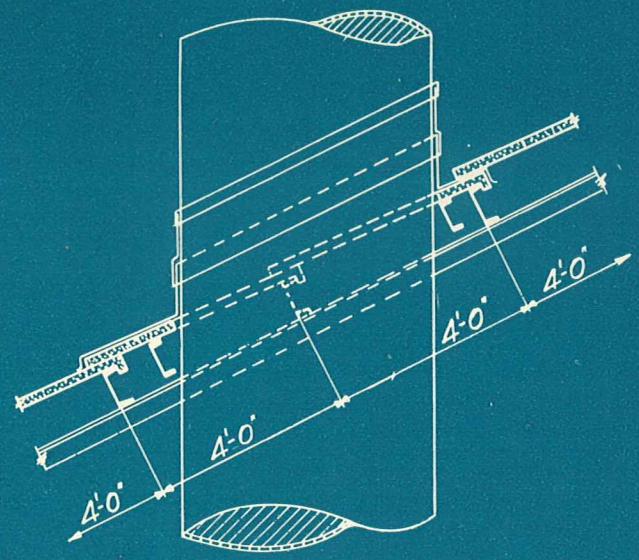
Typical Section Thru Valley

Note: All Framing Flush Top



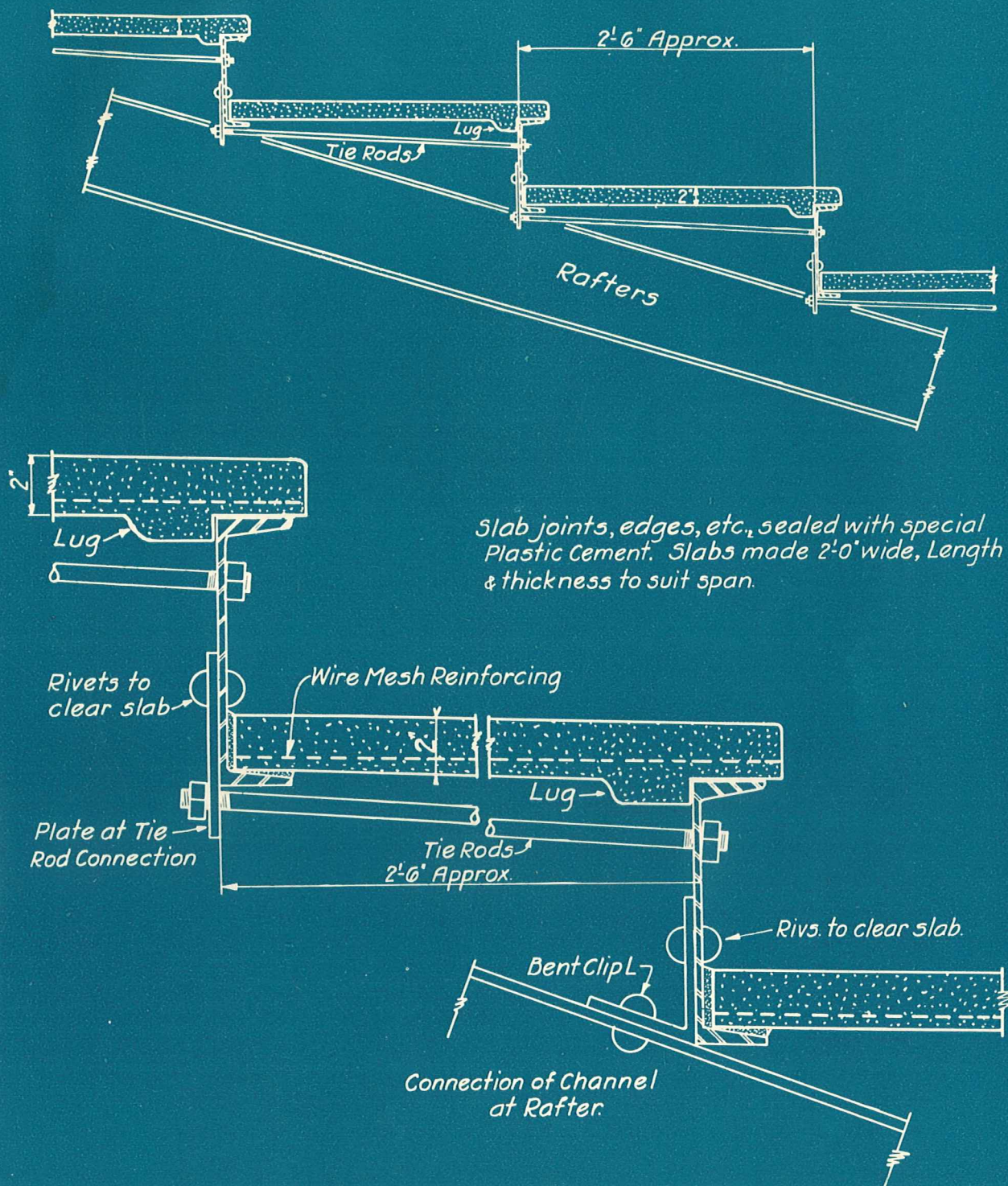
*Note: Steel Framing to be approx. 4'
from Stack for Tile Support.*

*Metal Collar & Flashing around Stack
Furnished by Others.*



Typical Stack Framing

Grandstand Construction—Pre-Cast Flat Slab



Memoranda

Memoranda

Memoranda

